

ESERCIZI SUI LIMITI DI FUNZIONI

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Analisi Matematica L-A

Calcolare i seguenti limiti

$$\lim_{x \rightarrow 3} e^x \frac{x^2 + x - 12}{x^2 - x - 6} \quad (1)$$

$$\lim_{x \rightarrow 2^-} \frac{x^3 + 2x - 12}{x^2 + x - 6} \quad (2)$$

$$\lim_{x \rightarrow 0^+} x^{\sqrt{x}} \quad (3)$$

$$\lim_{x \rightarrow 0} \sin(x) \frac{\sqrt{x}}{x^2 - x} \quad (4)$$

$$\lim_{x \rightarrow +\infty} \frac{2^x + x^{10}}{2x^{10} - 3^x} \quad (5)$$

$$\lim_{x \rightarrow 0^+} \frac{\sqrt{x}}{\sin(x)(2x + 3)} \quad (6)$$

$$\lim_{x \rightarrow -\infty} x^3 e^{1/x^2} \quad (7)$$

$$\lim_{x \rightarrow 0^-} \frac{e^{1/x}}{x^3} \quad (8)$$

$$\lim_{x \rightarrow 1} \log(x) \frac{x^2 + x - 2}{x^2 - x} \quad (9)$$

$$\lim_{x \rightarrow 1^+} e^{\frac{1}{1-x}}, \quad \lim_{x \rightarrow 1^-} e^{\frac{1}{1-x}} \quad (10)$$

Soluzioni. (1) $e^3 \cdot 7/5$; (2) $14/5$; (3) 1 ; (4) 0 ; (5) 0 ; (6) $+\infty$; (7) $-\infty$; (8) 0 ; (9) 0 , (10) $0, +\infty$.